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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,054	06/07/2006	Hiroshi Matsuda	06244/HG	6573

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EXAMINER	
TUROCY, DAVID P	
ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
10/05/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,054	MATSUDA ET AL.	
	Examiner	Art Unit	
	DAVID TUROCY	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/26/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendments, filed 6/26/2009, have been fully considered and reviewed by the examiner. The examiner notes the amendment to claims 1 and 2. Claims 1-4 are pending in the instant application.

Response to Arguments

2. Applicant's arguments filed 6/26/2009 have been fully considered but they are not persuasive.

The applicant has argued against the prior art of record arguing that the references fail to disclose controlling the time and temperature of the alloying treatment in accordance with the formula. The examiner respectfully disagrees. While the prior fails to disclose the formula claimed, the prior art does in fact control the time and temperature and as discussed in the rejections that follow, the control of the time and the temperature of the prior art is in accordance with the formula.

Specifically, the prior art discloses controlling the time and temperature that meets the claim requirements and it is therefore the examiners position that such must necessarily be "in accordance" with the formula claimed.

As for the added clause at the end of the independent claims discussing the relationship between the mechanical properties of claimed alloying treatment versus no alloying treatment. While the prior art (either Takada or JP '248 in view of JP '145) does not quantify the claimed relationship, the prior art as applied in the rejection teaches each and every process step and limitation of the applicant's claims, including the a hot

dip galvanization treatment using a steel sheet with the components as claimed, controlling the time and temperature of an alloying treatment such that the values are in accordance with the formula claimed and requirements claimed. Since the result claimed by applicant (i.e. the difference in the mechanical properties from those of no alloying treatment) is simply a function of the steps taken, and the applied prior art teaches the claimed process steps, the process of the prior art would have inherently produced the same results unless essential process steps and/or limitations are missing from the applicant's claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 include equations, which require "depending on the content of Si and of Al" or "depending on the content of Si, Al, Cr, Mo, and V" respectively. Claim 1 requires $Si+Al \geq 1.5x10^{-7} \times t^{0.75} \times (T-465)^3 + 0.117$ and claim 2 requires $Si+Al + 5Cr, 15Mo, 15V \geq 1.5x10^{-7} \times t^{0.75} \times (T-465)^3 + 0.117$. The present claims requires the components of the left hand of the equation to be "a content by mass contained in the steel sheet." However, from this language it is unclear what this encompasses, either the weight percentage or the total mass of the component in the steel substrate.

Specifically for claim 1, it is unclear from the claims or the specification whether "content by mass" is directed to the sum of the weight percent of the two components in the steel, an overall amount of the component in the steel, etc. It appears that such is directed towards the sum of the weight percentage and therefore the examiner is applying prior art to such a degree. The examiner notes the statement within the Remarks that the examiners interpretation of weight percentage is correct, however, the claim fails to provide evidence that "content by mass" = "weight percentage". Therefore, the examiner requests clarification, either by amendment of the claims requiring "mass percentage" or to disclose evidence to support the applicant's amendment is not indefinite.

Dependent claims fail to cure the deficiencies of the claims listed above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6517995 by Takada et al.

These claims are rejected for the same reasons as set forth in the office action dated 3/2/2009 in combination with the remarks set forth in paragraph 2 above, each of which is incorporated herein by reference.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002038248 by Hirotatsu, hereafter JP '248 in view of JP 11-131145, hereafter JP '145.

These claims are rejected for the same reasons as set forth in the office action dated 3/2/2009 in combination with the remarks set forth in paragraph 2 above, each of which is incorporated herein by reference.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5897967 by Hori et al explicitly discloses the sum of Si+Al is a result effective variable, directly affecting the time of alloying, and also discloses the time and temperature of alloying are interdependent on the completion of alloy treatment (Column 6-7, Column 8, line 06-Column 9, line 5). Hori additionally discloses composition and alloy treatment temperatures similar to those claimed.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-2940. The examiner can normally be reached on Monday, Wednesday and Friday from 7 a.m. - 6 p.m., Tuesday and Thursdays 7-10 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Turocy/
Primary Examiner, Art Unit 1792